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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,267	09/29/2000	Ivan Chow	Sprint IDF 1421 (4000-012	1016

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EXAMINER

ALI, SYED J

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,267

Applicant(s)

CHOW ET AL.

Examiner

Syed J Ali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed August 4, 2004, 2004. Claims 1-15 are presented for examination.
2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 102

3. **Claims 1-13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Desnoyers et al. (USPN 6,098,104) (hereinafter Desnoyers).**
4. As per claim 1, Desnoyers teaches the invention as claimed, including a method for a client application operating in a single-threaded architecture controlled by a user to request and receive multiple messages asynchronously from a destination application (col. 1 lines 19-22; col. 2 lines 6-10), the method comprising:
 - the client application sending a first request to a software agent, the client application and the software agent operating in a single-threaded architecture (col. 4 lines 52-56);
 - the client application sending a second request to a software agent prior to receiving a response to the first request from the software agent (col. 4 lines 52-56);
 - the client application continuing on in execution in its single-threaded environment prior to receiving responses to the first request or the second request from the software agent (col. 1 lines 23-34);

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the software agent registering the first request and forwarding the first request to the destination application (col. 4 lines 56-65);

the software agent beginning to cyclically poll the destination application for a first response to the first request (col. 8 line 65 - col. 9 line 15);

the software agent in between polling cycles registering the second request and forwarding the second request to the destination application (col. 4 lines 56-65);

the software agent beginning to cyclically poll the destination application for a second response to the second request, wherein such polling cycles in sequence with the polling for the first response to the first request (col. 8 line 65 - col. 9 line 15);

the destination application generating the first response to the first request and forwarding the first response to the software agent in response to polling from the software agent (col. 6 lines 40-43; col. 7 lines 22-41);

the software agent receiving the first response from the destination application, ceasing cyclically polling the destination application for the first response, and storing the first response associated with the first request, wherein such actions of receiving, ceasing, and storing occur in between the continuing polling cycles (col. 8 lines 43-64);

the destination application generating the second response to the second request and forwarding the second response to the software agent in response to polling from the software agent (col. 8 line 43 - col. 9 line 15);

the software agent receiving the second response from the destination application, ceasing cyclically polling the destination application for the second response, and storing the second response associated with the second request, wherein such actions of receiving, ceasing,

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and storing occur in between the continuing polling cycles (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5);

the client application polling the software agent for the first response to the first request and the software agent responding by forwarding the first response from storage to the client application and deleting the first response from storage, wherein the actions of responding by forwarding and deleting occur in between the continuing polling cycles (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5);

the client application polling the software agent for the second response to the second request and the software agent responding by forwarding the second response from storage to the client application and deleting the second response from storage, wherein the actions of responding by forwarding and deleting occur in between the continuing polling cycles (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

5. As per claim 2, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the action of the client application of sending the second request occurs after the actions of the software agent of registering the first request and forwarding the first request to the destination application and of beginning to cyclically poll the destination application for a first response to the first request (col. 4 lines 52-65).

6. As per claim 3, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the action of the client application of sending the second request occurs before the actions of the software agent of registering the first request and forwarding the first request to

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the destination application and of beginning to cyclically poll the destination application for a first response to the first request (col. 4 lines 52-65).

7. As per claim 4, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the action of the destination application of generating the second response to the second request occurs prior to the action of the destination application of generating the first response to the first request (col. 6 lines 40-43; col. 7 lines 22-41); and

wherein the action of the software agent of receiving the second response from the destination application, and performing the actions of ceasing polling and storing related to the second response occur prior to the actions of the software agent of receiving the first response from the destination application, and performing the actions of ceasing polling and storing related to the first response (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

8. As per claim 5, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the action of the destination application of generating the second response to the second request occurs after the action of the destination application of generating the first response to the first request (col. 6 lines 40-43; col. 7 lines 22-41); and

wherein the action of the software agent of receiving the second response from the destination application, and performing the actions of ceasing polling and storing related to the second response occur after the actions of the software agent of receiving the first response from the destination application, and performing the actions of ceasing polling and storing related to the first response (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

9. As per claim 6, Desnoyers teaches the invention as claimed, including the method of claim 4, wherein the action of the client application polling the software agent for the second response to the second request and the subsequent forwarding and deleting actions related to the second response to the second request occur prior to the action of the client application polling the software agent for the first response to the first request and the subsequent forwarding and deleting action related to the first response to the first request (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

10. As per claim 7, Desnoyers teaches the invention as claimed, including the method of claim 4, wherein the action of the client application polling the software agent for the second response to the second request and the subsequent forwarding and deleting actions related to the second response to the second request occur after the action of the client application polling the software agent for the first response to the first request and the subsequent forwarding and deleting actions related to the first response to the first request (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

11. As per claim 8, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the action of the client application polling the software agent for the first response to the first request and the subsequent forwarding and deleting actions related to the first response to the first request occur prior to the actions of the destination application generating the second response to the second request and forwarding the second response to the

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software agent and prior to subsequent actions of the software agent and of the client application involving the second response (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

12. As per claim 9, Desnoyers teaches the invention as claimed, including the method of claim 1, wherein the destination application is resident on a server remote to the client application and to the software agent (col. 3 lines 22-38); and

wherein the actions of the software agent of storing the responses received from the destination application stores such responses on a server local to the software agent (col. 3 lines 22-38; col. 4 lines 52-60); and

wherein the actions of the software agent of responding by forwarding the responses from storage to the client application forwards such responses from storage on a server local to the software agent (col. 3 lines 22-38; col. 4 lines 52-60).

13. As per claim 10, Desnoyers teaches the invention as claimed, including the method of claim 9, wherein the software agent is resident on a server local to the client application (col. 3 lines 22-38); and

wherein the actions of the software agent of storing the responses received from the destination application stores such responses on a server local to the client application (col. 3 lines 22-38; col. 4 lines 52-60); and

wherein the actions of the software agent of responding by forwarding the responses from storage to the client application forwards such responses from storage on a server local to the client application (col. 3 lines 22-38; col. 4 lines 52-60).

14. As per claim 11, Desnoyers teaches the invention as claimed, including the method of claim 9, wherein the remote destination application comprises a destination server application (col. 3 lines 22-38; col. 4 lines 52-65) and a destination client application which manages requests to and responses from the destination server application (col. 3 lines 22-38; col. 4 lines 52-65); and

wherein the actions of forwarding the requests to the destination application comprise forwarding the requests to the destination client application (col. 4 lines 56-65); and

wherein the actions of the software agent of cyclically polling the destination application comprise cyclically polling the destination client application for the responses to the request (col. 8 line 65 - col. 9 line 15); and

wherein the actions of the destination application forwarding the responses to the software agent in response to polling from the software agent comprise the destination client application forwarding responses to the software agent (col. 6 lines 40-43; col. 7 lines 22-41).

15. As per claim 12, Desnoyers teaches the invention as claimed, including the method of claim 1, further comprising:

the client application, in conjunction with sending a first request to the software agent, sending a command to register a callback associated with such first request (col. 4 lines 52-60);

the software agent, in conjunction with the actions of receiving the first response from the destination application, ceasing cyclically polling the destination application for the first response, and storing the first response associated with the first request, further takes the action

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in response to the callback of notifying the user that the first response has been received (col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

16. As per claim 13, Desnoyers teaches the invention as claimed, including the method of claim 12, wherein the command to register a callback comprises a command resulting in instantiation of a callback object associated with the software agent (col. 4 lines 52-65; col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5); and

wherein the action of the software agent of notifying the user comprises the callback object responding to the storage of the first response associated with the first request by notifying the user that the first response has been received (col. 4 lines 52-65; col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

17. As per claim 15, Desnoyers teaches the invention as claimed, including the method of claim 12, wherein the action of notifying the user that the first response has been received comprises notifying the client application that the first response has been received and the client application interrupting its thread of execution to notify the user that the first response has been received in response to the notification from the software agent (col. 4 lines 52-65; col. 8 line 65 - col. 9 line 15; col. 9 lines 50 - col. 10 line 5).

Claim Rejections - 35 USC § 103

18. **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollberg in view of Chang et al. (USPN 6,338,078) (hereinafter Chang) in view of Burns (USPN 6,098,090).**

19. As per claim 14, Chang teaches the invention as claimed, including the following limitations not shown by Desnoyers:

the method of claim 12, wherein the action of notifying the user that the first response has been received comprises sending a pop-up to the user notifying the user (col. 4 lines 12-23).

20. Burns teaches the invention as claimed, including the following limitations not shown by Desnoyers or Chang:

the notification of the user is done without interrupting the thread of execution of the client application (col. 4 line 63 - col. 5 line 21).

21. It would have been obvious to one of ordinary skill in the art to combine Desnoyers with Chang since the use of pop up dialogs allows the immediate notification to the user that an event has occurred. Particularly in the case where the event cannot be immediately processed, the pop up would allow the user to be aware of the fact that a response has been received and will be serviced shortly. Additionally, it would have been obvious to one of ordinary skill in the art to add Burns to the combination of Desnoyers and Chang since in circumstances such as when the client application is executing a high priority task, it may be critical that the task finish completion before other processing is done. Specifically, it is well known to assign priorities to tasks within a system. If a determination were made that the currently executing task is of a

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higher importance than the task that is awaiting a response, it would be most beneficial to continue processing the current task to completion before servicing the response.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Szymanski et al. (USPN 5,566,337) teaches asynchronous notification of available messages using a polling technique.

Guo et al. (USPN 5,577,043) teaches a polling system that allows an adaptable amount of asynchronous transfer to reduce the overhead incurred in message passing.

Inoue (USPN 5,694,543) teaches a method of asynchronous messaging using a polling technique in a networked environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
September 28, 2004



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